Annual Report of Operations for Year 2016

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
WAG130003

Facility & Owner Information

Facility Name: Little White Salmon National Fish Hatchery	
Operator Name (Permittee): Little White Salmon National Fish Hatchery	
Address: 56961 SR 14 Cook, WA 98605	
Email: Bob_Turik@fws.gov	Phone: 509-538-2755
Owner Name (if different from operator):	
Email:	Phone:

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

Changes to the BMP include updated information pertaining to a new drum filter for treatment of effluent; various flow rates and hatchery personnel.

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed
fish fecal matter	Jan - Dec	earthen pits (onsite)
sediment/organic matter	Jan - Dec	earthen pits (onsite)
fish mortalities	Jan - Dec	earthen pits (onsite)

Additional Comments:

Fecal matter/organics/sediment are flushed from raceways. Mortalities buried daily.

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish
NA	NA	NA	NA

Additional Comments:

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year.**
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ■ No	Azithromycin
☐ Yes ▣ No	Chloramine-T: *See additional reporting requirements on page 7*
▣ Yes ☐ No	Chlorine
▣ Yes ☐ No	Draxxin
☐ Yes ▣ No	Erythromycin - injectable
☐ Yes ▣ No	Erythromycin - medicated feed
☐ Yes ▣ No	Florfenicol (Aquaflor)
▣ Yes ☐ No	Formalin - 37% formaldehyde: *See additional reporting requirements on page 7*
☐ Yes ▣ No	Herbicide - describe:
☐ Yes ▣ No	Hormone - describe:
☐ Yes ▣ No	Hydrogen Peroxide: *See additional reporting requirements on page 7*
☐ Yes ☐ No	Iodine: *See additional reporting requirements on page 7*
☐ Yes ▣ No	Oxytetracycline
☐ Yes ▣ No	Potassium Permanganate: *See additional reporting requirements on page 7*
☐ Yes ▣ No	Romet
☐ Yes ▣ No	SLICE (emamectin benzoate)
▣ Yes ☐ No	Sodium Chloride - salt
☐ Yes ▣ No	Vibrio vaccine
▣ Yes ☐ No	Other: MS-222 (tricaine methanesulfonate)
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Multi-Chlor		Generic Name: Chlorine	
Reason for use: Raceway disinfection			
☐ Preventative/Prophylactic ☒ As-needed	Total quantity of formulated product per treatment (specify units): ** 150 mls (max)	Total quantity of formulated product used in past year (specify units): 3.68 Liters	
Date(s) of treatment: April, May, July, October			Total number of treatments in past year: 42
Maximum daily volume of treated water: NA	Treatment concentration (specify units): 1.6ml / Liter	Duration and frequency of treatment(s): 1 to 2 times / year	
Method of application:	☐ Static Bath ☐ Flow-through	☐ Medicated Feed ☒ Other (describe): Wand sprayer	
Location in facility chemical was used (check all that apply):	☒ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☒ Other (describe): Air dried at site *
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: * Sodium thiosulphate used around closed drains to neutralize. No chlorine detected in effluent. ** Smaller vessels require less chlorine.			

Brand Name: Parasite-S (37%)		Generic Name: Formalin	
Reason for use: Control adult fungus; prevent fungus in eggs			
☒ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment: Variable *	Total quantity of formulated product used in past year (specify units): 3,710 Liters	
Date(s) of treatment: June 21 through Dec. 30			Total number of treatments in past year: 109 events
Maximum daily volume of treated water: 747,467 Liters	Treatment concentration (specify units): 167 ppm	Duration and frequency of treatment(s): 3 days / week for either 15 mins / day or 1 hour / day	
Method of application:	☐ Static Bath ☒ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☒ Raceways ☒ Incubation building	☐ Ponds ☐ Off-line settling basin	☒ Other (describe): Adult holding pond
Where did water treated with this chemical go? (check all that apply):	☒ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: * "Worst case" scenario covered in water-borne treatment section			

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: American Workman		Generic Name: Sodium chloride	
Reason for use: Fish therapeutic			
☐ Preventative/Prophylactic ☒ As-needed	Total quantity of formulated product per treatment (specify units): Variable **	Total quantity of formulated product used in past year (specify units): 940 Kgs	
Date(s) of treatment: May - November 9 fish transfers; 13 spawn days			Total number of treatments in past year: 22
Maximum daily volume of treated water: 43,806 L	Treatment concentration (specify units): *See attached note	Duration and frequency of treatment(s): As needed	
Method of application: *	☒ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☒ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☒ Other (describe): Transfer truck tank
Where did water treated with this chemical go? (check all that apply):	☒ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: ** Worst case scenario covered in water-borne treatment section			

Brand Name: Ovadine (10%)		Generic Name: Iodine	
Reason for use: Egg disinfection; equipment disinfection			
☒ Preventative/Prophylactic ☒ As-needed	Total quantity of formulated product per treatment: 2.14 Liters	Total quantity of formulated product used in past year (specify units): 116 Liters	
Date(s) of treatment: Spawning: August, Oct., Nov. Equipment: as needed			Total number of treatments in past year: 18 events
Maximum daily volume of treated water: 1874 Liters	Treatment concentration (specify units): 100 ppm	Duration and frequency of treatment(s): One time treatment per stack of 30 minutes	
Method of application:	☒ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☒ Incubation building	☐ Ponds ☐ Off-line settling basin	☒ Other (describe): Spawning building
Where did water treated with this chemical go? (check all that apply):	☒ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☒ Other (describe): routed to off-line settling basin
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Sodium Chloride	**Static Bath Treatments**	
Tank Volume	*See attached note	Liters
Desired Static Bath Treatment Concentration	*	µg/L
Volume of Product Needed	10.5	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: * Active Ingredient:	Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	72,765,305 Liters	Specify Units
Maximum % of Facility Discharge Treated	0.0006	% of Total Discharge

Formalin (37%)	**Flow-Through Treatments**	
Tank Volume	611,644	Liters
Calculated Flow Rate	11,636	Liters/Minute
Duration of Treatment	60	Minutes
Desired Flow-Through Treatment Concentration of Product	167,000	µg/L
Amount of Product to Add Initially	NA	Liters Product
Amount of Product to Add During Treatment	1,264	mL/Minute
Total Volume of Product Needed	54.5	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 1.27 mg/L Active Ingredient: 2.00 E-7 liters / liter H_2O	Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	80,254,970 Liters	Specify Units
Maximum % of Facility Discharge Treated	0.009	% of Total Discharge

Sodium chloride

For worst case scenario:

One 50 lb bag of salt is added to a transfer truck tank for fish transfers as a static bath.

Transfer tank volume: 8,328 liters

Treatment concentration: 500 ppm

Fish are released, along with holding water (salt solution), into a raceway. Calculations for raceway discharge to outflow are as follows:

Raceway volume: 43,806 liters

Maximum concentration of salt in raceway: 95 ppm

Maximum effluent concentration of solution: 0.057 mg/L

Maximum effluent concentration of active ingredient: 1.0E-7 liters salt / liter H_2O

Aquaculture Drugs and Chemicals (cont'd)

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- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

MS-222	**Static Bath Treatments**
Tank Volume	2,040 Liters
Desired Static Bath Treatment Concentration	85 000 µg/L
Volume of Product Needed	263 grams (density unknown) ~~Liters Product~~
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 0.0022 mg/L Active Ingredient: 3.20 E-6 grams/liter H_2O Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	80,254,970 Liters Specify Units
Maximum % of Facility Discharge Treated	0.00003 % of Total Discharge

Flow-Through Treatments	
Tank Volume	Liters
Calculated Flow Rate	Liters/Minute
Duration of Treatment	Minutes
Desired Flow-Through Treatment Concentration of Product	µg/L
Amount of Product to Add Initially	Liters Product
Amount of Product to Add During Treatment	mL/Minute
Total Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
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Iodine (10%) **Static Bath Treatments**	
Tank Volume	284 Liters
Desired Static Bath Treatment Concentration	100,000 µg/L
Volume of Product Needed	2.14 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 0.00045 mg/L Active Ingredient: 3.42 E-9 liters/liter H_2O Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	62,593,752 Liters Specify Units
Maximum % of Facility Discharge Treated	0.000005 % of Total Discharge

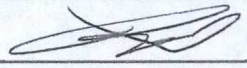
Flow-Through Treatments	
Tank Volume	Liters
Calculated Flow Rate	Liters/Minute
Duration of Treatment	Minutes
Desired Flow-Through Treatment Concentration of Product	µg/L
Amount of Product to Add Initially	Liters Product
Amount of Product to Add During Treatment	mL/Minute
Total Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
Facility changes include installation of a drum filter for increased effluent treatment and an upgrade to the existing off-line settling basin.

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BOB JURIK	
Printed name of person signing	Title HATCHERY MANAGER
	
Applicant Signature	Date Signed 1/23/17

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

1200 Sixth Avenue, Suite 900

Seattle, WA 98101-3140